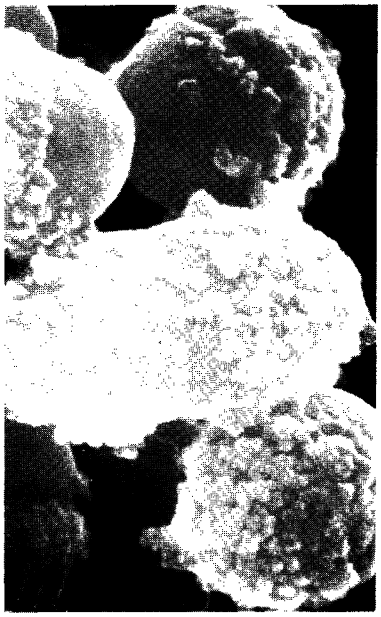

Genetics and Molecular Biology of Streptococci, Lactococci, and Enterococci

Edited by Gary M. Dunny, *University of Minnesota, St. Paul;*
P. Patrick Cleary, *University of Minnesota Medical School, Minneapolis;*
and Larry L. McKay, *University of Minnesota, St. Paul*

This new book summarizes the current state of streptococcal genetics research being conducted by microbial geneticists and medical, dental, veterinary, and food microbiologists around the world. Its intended audience includes researchers and educators working in the above disciplines and scientists developing and applying this research in the food, pharmaceutical, biotechnological, and vaccine industries.

Also presented is valuable reference information on genetic techniques such as electroporation, cloning vectors, and other essential guidance for researchers working on streptococci and other gram-positive bacteria.

This book had its origin in the 3rd International ASM Conference on Streptococcal Genetics, June 1990.

Condensed Contents

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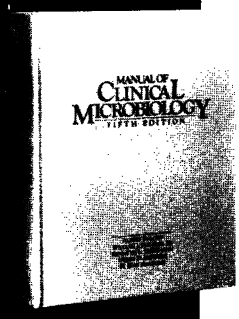

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Annals of Internal Medicine

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Editor in Chief:
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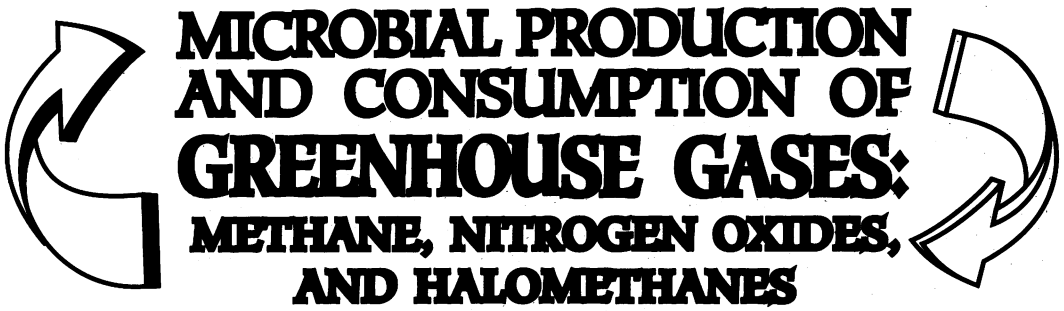
ASM

A very timely examination of microbial processes that affect global climate



Edited by
John E. Rogers, *Environmental Protection Agency, Athens, Georgia,*
and
William B. Whitman, *University of Georgia, Athens*

Considered together, the impact of trace gases such as methane, nitrogen oxides, and halomethanes on global climate could equal that of carbon dioxide. Many of these less-publicized "greenhouse gases" are produced or metabolized by microorganisms.

This volume reviews current data on the relationship between microbial processes and the synthesis and degradation of methane, nitrogen oxides, and halomethanes in the environment. Major global sources of these gases, their atmospheric concentrations and isotopic compositions, and their production and consumption in terms of basic microbial processes in a variety of ecosystems are covered. Problems associated with scaling and model building as ways to identify significant global sources for microbially produced trace gases are also discussed.

This timely publication will greatly interest environmental and general microbiologists, earth and atmospheric scientists in general, and graduate students focusing in these areas.

CONTENTS

July 1991. Hardcover (ISBN 1-55581-035-7). 308 pages, illustrated, index. Member: $49.00; Nonmember: $64.00. *When ordering, specify the offer number below.* Charge card orders for ASM books can also be placed by telephone (202-737-3600) or by fax (202-737-0368).

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MICROBIAL DETERMINANTS OF VIRULENCE AND HOST RESPONSE

Editor: Elia M. Ayoub
Coeditor: Gail H. Cassell
Associate Editors: William C. Branche, Jr., and Timothy J. Henry

THE PROLIFERATION of information on the molecular microbiology of factors involved in microbial virulence prompted this comprehensive new publication. Essentially a survey and evaluation of the current status of research in the related fields of bacteriology, mycology, immunology, and host-parasite relationships, the book offers readers a useful summary of recent advances. Based on a workshop held under the auspices of the Bacteriology and Mycology Study Section of the Division of Research Grants and the National Institute of Allergy and Infectious Diseases, the book contains the following sections and chapters:

I. Bacterial Factors

1. Regulation of Post-Exponential-Phase Exoprotein Synthesis in *Staphylococcus aureus* (Novick et al.); 2. Streptococcal Immunoglobulin-Binding Proteins (Boyle et al.); 3. Noncapsular Surface Antigens and Their Association with Virulence of *Haemophilus influenzae* Type b (Hansen); 4. Reappraisal of the Chemistry of Mycobacterial Cell Walls, with a View to Understanding the Roles of Individual Entities in Disease Processes (Brennan et al.); 5. Regulation of the Immune Response to *Mycobacterium tuberculosis* (Ellner et al.); 6. Role of Major Histocompatibility Complex (MHC) and Non-MHC Genes in Host Resistance and Susceptibility to Mycobacteria (Buschman et al.); 7. Role of the Capsular Polysaccharide of Type III Group B Streptococci in Virulence (Kasper et al.).

II. Fungal Factors

8. Immunobiology of *Histoplasma capsulatum*-Reactive T Cells (Deepe); 9. Gamma Interferon and Experimental Murine Histoplasmosis (Wu-Hsieh and Howard); 10. Macrophage Oxidation of L-Arginine Is Linked to Fungistatic Capability (Granger et al.); 11. *Candida albicans* Acid Proteinase: a Role in Virulence (Ray and Payne); 12. Adherence of *Candida albicans* to Mammalian Cells (Edwards and Mayer).

III. Bacterial Factors in Sexually Transmitted Diseases

13. Pilus and Outer Membrane Protein II Variation in *Neisseria gonorrhoeae* (Swanson); 14. Outer Membrane Proteins of *Neisseria gonorrhoeae* (Elkins and Sparling); 15. Cellular and Molecular Pathogenesis of Syphilis (Blanco et al.); 16. Chlamydial 57-Kilodalton Stress Response Protein Is a Deleterious Immune Target (Morrison).

IV. Biologic Factors

17. The Neutrophil NADPH Oxidase System: Molecular Aspects (Clark); 18. Lipopolysaccharide Signal Modification by Acyloxyacyl Hydrolase, a Leukocyte Enzyme (Munford et al.); 19. Regulation of Macrophage-Mediated Antigen Presentation by Microbial Products (Ziegler); 20. Complement in Host Defense against Bacterial Infections (Frank).

V. Antibiotic Resistance

21. Antibiotic Resistance in *Haemophilus influenzae* (Smith); 22. New and Complex Strategies of β-Lactam Antibiotic Resistance in Pneumococci and Staphylococci (Tomasz); 23. Evolving β-Lactamases (Jacoby); 24. Multiple Antibiotic Resistance: Gene Selection, Function, and Spread (Levy).

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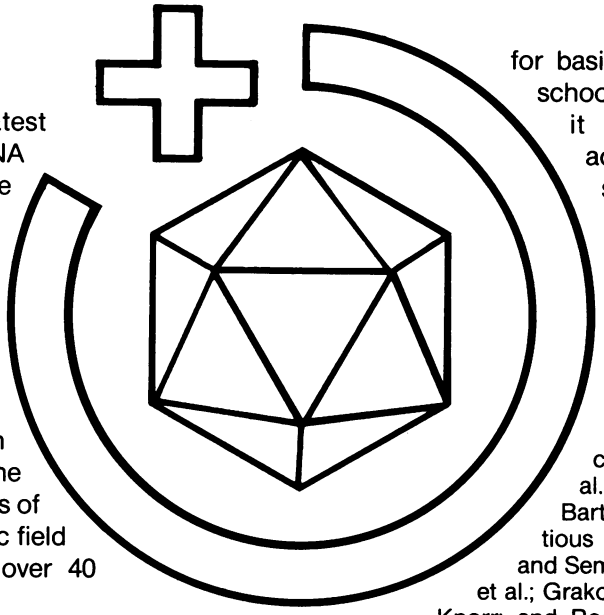
THE LATEST INFORMATION ON SOME VIRUS "SUPERFAMILIES"—

NEW ASPECTS OF POSITIVE-STRAND RNA VIRUSES

EDITED BY MARGO A. BRINTON AND FRANZ X. HEINZ



THIS BOOK presents the latest thinking on positive-strand RNA viruses. These include the majority of plant viruses, insect viruses, and animal viruses, including picornavirus, coronavirus, togavirus, flavivirus, poliovirus, and rhinovirus. Arising from the 2nd International Symposium on Positive-Strand RNA Viruses, held in Vienna, Austria, in June 1989, the book is a compendium of reviews of exciting research in this dynamic field currently being performed at over 40 laboratories.

At one time considered divergent in structure, the viruses of the sindbis, polio, and coronavirus superfamilies are increasingly known to share important similarities which allow them to shuffle conserved amino acid units to form new viruses. The implications for plant, animal, and human viral studies, including vaccine and antiviral-compound development, are serious. In addition, the book gives new insight into the diversity of the structure of picornaviruses. The first animal viruses to be crystallized, the picornaviruses have had enormous influence on subsequent discussions of viral structure. Several color plates illustrate the structural projections of these viruses and add to the book's overall usefulness.

The book will be valued both as an update for virologists, molecular biologists, viral immunologists, medical virologists, and researchers in vaccine development and antiviral compounds and as supplemental reading for basic virology courses in medical schools and universities. In addition, it is highly recommended for advanced courses in positive-strand RNA virology.

Condensed Contents

Overview: Positive-Stranded RNA Viruses: Early History and the Role of Model Viruses (Kaesberg) **I.** Viral Evolution (7 chapters by Goldbach; Spaan et al.; Taylor et al.; Meyers et al.; Dolja et al.; Godeny et al.; and Wright and Cotton.) **II.** Genome Replication (5 chapters by Hall et al.; Flanegan et al.; Strauss et al.; Leibowitz et al.; and Barton et al.) **III.** DI-RNAs and Infectious Clones (7 chapters by Giachetti and Semler; Hagino-Yamagishi et al.; Siegl et al.; Grakoui et al.; Wellink et al.; Morris and Knorr; and Roos et al.) **IV.** Protein Translation, Cleavage, and Modification (10 chapters by Reuer et al.; Howell et al.; Macejak et al.; Simons et al.; Garoff et al.; Parks et al.; Skern et al.; Falk et al.; Feng et al.; and Falgout and Lai.) **V.** Virion Structure and Assembly (6 chapters by Hogle et al.; Acharya et al.; Chen et al.; Wengler; Schlesinger et al.; and Kirkegaard and Compton.) **VI.** Viral Receptors, Uptake, and Disassembly (6 chapters by Holmes et al.; Colonno et al.; McClelland and Greve; Merluzzi et al.; Hsu et al.; and Racaniello et al.) **VII.** Antigenic Structure and Functions (4 chapters by Siddell et al.; Heinz et al.; Kurane et al.; and Strauss et al.) **VIII.** Molecular Aspects of Pathogenesis and Virulence (5 chapters by Agol; Girard et al.; Calenoff et al.; Johnston et al.; and Kandolf et al.) **IX.** Strategies for Control of Virus Disease (4 chapters by Baulcombe et al.; Kew et al.; McKinlay et al.; and Andries et al.)

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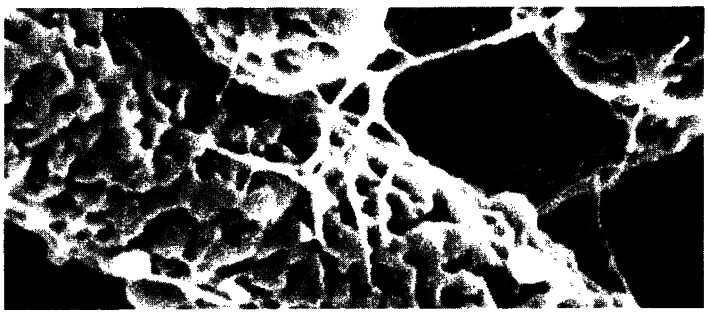
A fascinating look at the variety of multicellular interactions of microbes...

Microbial Cell-Cell Interactions



Edited by **Martin Dworkin**, *University of Minnesota, Minneapolis*

This well-considered compilation of reviews and discussions has as one central theme that the historical concept of microbes as essentially unicellular organisms existing independently of other organisms is conceptually incomplete and misleading; instead, microbial systems manifest a variety of cell-cell interactions and a real understanding, not only of the role of the microbe in nature but also of the nature of the microbe itself, requires that researchers begin to think of microbes as interacting biochemically, genetically, and physiologically with each other. Thus considered, it becomes apparent that the variety of cell-cell interactions manifested by microbial systems represent excellent model systems for examining the mechanistic bases of the cell-cell interactions themselves, with application to the study of multicellular interactions in higher organisms.

The authors provide a representative sampling of the types of interactions among microbes, including mating interactions, involving the exchange of genetic information and including studies of exchanges of mating signals preceding mating; developmental interactions, with a close look at myxobacteria and cellular slime molds; ecological/colonization interactions, represented by discussions of coaggregation, especially in the oral ecosystem, and of bacterial luminescence in fish; and predator-prey interactions, including a look at the mechanisms involved in the *Bdellovibrio* developmental cycle that ultimately kills the host cell.

This book is directed toward any microbiologist, and the list is a long one, who must deal in a practical sense or in a research context with cell-cell interactions, as exemplified by examinations of mechanisms of pathogenesis, ecological interactions, mechanisms of mating, developmental biology, predator-prey interactions, plant-microbe interactions, and formation of mixed culture communities.

CONTENTS

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